

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:) Confirmation No.: 5721
Hidekazu MIYAIRI et al.) Examiner: Jeffrey R. West
Serial No. 10/808,499) Group Art Unit: 2857
Filed: March 25, 2004)
For: METHOD FOR TESTING)
SEMICONDUCTOR FILM,)
SEMICONDUCTOR DEVICE AND)
MANUFACTURING METHOD)
THEREOF)

RESPONSE

Honorable Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The Official Action mailed May 27, 2009, has been received and its contents carefully noted. Filed concurrently herewith is a *Request for One Month Extension of Time*, which extends the shortened statutory period for response to September 27, 2009. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on April 16, 2007; and June 14, 2007.

Claims 1, 3, 11, 18, 26, 28, 32, 34, 37, 39, 42, 44, 45, 47, 50, 52, 53, 55, 58, 60, 69, 71, 74, 76, 77, 79 and 82 are pending in the present application, of which claims 1, 3, 26 and 28 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

Paragraph 4 of the Official Action rejects claims 3, 34, 39, 71 and 79 as obvious based on the combination of U.S. Publication No. 2003/0016349 to Tsumura, U.S.

Patent No. 6,647,148 to Ozawa and U.S. Publication No. 2005/0041226 to Tanaka. Paragraph 5 of the Official Action rejects claims 1, 11, 18, 32, 37, 69 and 77 as obvious based on the combination of Tsumura, Ozawa, Tanaka and U.S. Publication No. 2004/0228526 to Lin. Paragraph 6 of the Official Action rejects claims 47 and 55 as obvious based on the combination of Tsumura, Ozawa, Tanaka and U.S. Publication No. 2003/0142298 to Ujihara. Paragraph 7 of the Official Action rejects claims 45 and 53 as obvious based on the combination of Tsumura, Ozawa, Tanaka, Lin and Ujihara. Paragraph 8 of the Official Action rejects claims 28, 44 and 76 as obvious based on the combination of Tsumura, Ozawa, Tanaka and U.S. Patent No. 6,861,614 to Tanabe. Paragraph 9 of the Official Action rejects claims 26, 42, 74 and 82 as obvious based on the combination of Tsumura, Ozawa, Tanaka, Lin and Tanabe. Paragraph 10 of the Official Action rejects claims 52 and 60 as obvious based on the combination of Tsumura, Ozawa, Tanaka, Tanabe and Ujihara. Paragraph 11 of the Official Action rejects claims 50 and 58 as obvious abased on the combination of Tsumura, Ozawa, Tanaka, Lin, Tanabe and Ujihara. The Applicant respectfully traverses the rejection because the Official Action has not made a *prima facie* case of obviousness.

As stated in MPEP §§ 2142-2144.04, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some reason to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the

art.” In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims. Independent claims 1 and 26 recite comparing a fluctuation obtained from relations between an approximate line and average values of corrected saturations with a reference value which is determined for a demanded performance of a semiconductor element in order to evaluate a crystallinity of a semiconductor film having crystallinity that has been improved. Similarly, independent claims 3 and 28 recite comparing a fluctuation obtained from relations between an approximate line and average values of luminances with a reference value which is determined for a demanded performance of a semiconductor element in order to evaluate a crystallinity of a semiconductor film having crystallinity that has been improved. For the reasons provided below, Tsumura, Ozawa, Tanaka, Lin, Ujihara and Tanabe, either alone or in combination, do not teach or suggest the above-referenced features of the present invention.

Regarding claim 3, the Official Action implicitly concedes that Tsumura does not teach a fluctuation obtained from relations between an approximate line and average values of luminances and explicitly concedes that “Tsumura does not include the specifics on how the image discriminator determines the corresponding locations” (pages 4-5; Paper No. 20090521). The Official Action asserts that “Ozawa teaches ... testing the device using a fluctuation obtained from relations between the approximate line and the average values of the luminance (column 8, lines 3-20 and Figure 4C)” (page 5, Id.; emphasis added). Although the Official Action may be asserting that the curved line in Figure 4C of Ozawa corresponds with the approximate line of the present claims, the Official Action does not make clear what specific portion of Ozawa corresponds to the recited “fluctuation” or “reference value” of the present claims.

Also, the above-referenced features of the present invention have a remarkable effect, for example, the present method enables crystallization with optimal energy at all times (page 10, lines 16-18). The Applicant respectfully submits that Ozawa merely teaches a method for determining borders. As such, the Applicant respectfully submits that Ozawa does not teach or suggest a fluctuation obtained from relations between an approximate line and average values of luminances. As such, Ozawa does not cure the deficiencies in Tsumura. That is, Tsumura and Ozawa do not teach or suggest comparing a fluctuation obtained from relations between an approximate line and average values of corrected saturations with a reference value which is determined for a demanded performance of a semiconductor element in order to evaluate a crystallinity of a semiconductor film having crystallinity that has been improved.


Tanaka, Lin, Ujihara and Tanabe do not cure the deficiencies in Tsumura and Ozawa. Tanaka is relied upon to allegedly teach that a measurement is to be performed in a direction perpendicular to a scanning direction of light (page 6, *Id.*); Lin is relied upon to allegedly teach determining a corrected saturation value for an image (page 7, *Id.*); Ujihara is relied upon to allegedly teach an output of a halogen source (page 9, *Id.*); and Tanabe is relied upon to allegedly teach that a laser is applied as a pulse (page 10, *Id.*). However, Tsumura, Ozawa, Tanaka, Lin, Ujihara and Tanabe, either alone or in combination, do not teach or suggest comparing a fluctuation obtained from relations between an approximate line and average values of corrected saturations with a reference value which is determined for a demanded performance of a semiconductor element in order to evaluate a crystallinity of a semiconductor film having crystallinity that has been improved.

Since Tsumura, Ozawa, Tanaka, Lin, Ujihara and Tanabe do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized to charge fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(a), 1.20(b), 1.20(c), and 1.20(d) (except the Issue Fee) which may be required now or hereafter, or credit any overpayment to Deposit Account No. 50-2280.

Respectfully submitted,



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